

# Appendix D MITIGATION AND MINIMIZATION MEASURES

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CONCERN	MEASURE	TIMING
<b>Utilities</b>	All affected utilities including wells, telephone, electrical, and gas lines will be relocated prior to construction.	Prior to project construction
<b>Aesthetics</b> Light and Glare	A planting and/or screening plan will be implemented to reduce the impact of the increase in light and glare on existing residences to the degree practicable.	During final design and construction
<b>Aesthetics</b> Tree Screening	Where significant trees or groups of trees do not need to be cut down, but are located within the temporary impact area ESA fencing will be installed.	Prior to construction
<b>Aesthetics</b> Revegetation	To establish effective revegetation on slopes, topsoil should be stockpiled, and later applied to the completed slopes. The Office of Landscape Architecture will prepare an erosion control plans for the specific requirements of this project.	During final design and construction
<b>Aesthetics</b> Structures	Aesthetic treatments will be considered for all new retaining walls and bridges.	During final design and construction
<b>Aesthetics</b> Crash Railing	For the new bridge crash-rail, incorporation of an "open" rail type will facilitate views to the surrounding landscape and as an appropriate replacement to the existing "open" crash-rail.	During final design and construction
<b>Biology</b> Endangered Species	A Biological Assessment will be submitted to USFWS for impacts to threatened and endangered species. All measures included in the Biological Opinion issued by USFWS will be included as part of the project.	Prior to certification of final environmental document.
<b>Biology</b> Pre-Construction Surveys	Pre-construction surveys to determine presence or absence of listed species and species of concern.  If any of the surveys reveal the presence of species not yet observed the appropriate measure would be taken. These measures will be fully developed with the appropriate resource agency.	Prior to commencement of construction.  Timing of surveys varies by species.
<b>Biology</b> ESA's	Prior to the commencement of any construction activities the Environmentally Sensitive Areas (ESA's) will be delineated	Prior to commencement of construction.
<b>Biology</b> Invasive Species	All slopes that are disturbed will be revegetated with native vegetation following construction.	During construction
<b>Biology</b> Oak Woodlands	Any oak trees impacted will be compensated by using the guidelines provided by the CDFG.	During final design and construction
<b>Biology</b> Wetlands	A Wetlands Mitigation and Monitoring Plan would be prepared and provided to the ACOE and CDFG for review and approval.	

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<b>Cultural Resources</b> Historic	Memorandum of Agreement (MOA) will be prepared by Caltrans and FHWA in consultation with the SHPO to mitigate the project impacts to historic Taber's Corner that has been found to be eligible for the NRHP	Prior to project construction.
<b>Cultural Resources</b> Late Stage Discovery	Should cultural resources be uncovered during construction, it is Caltrans policy to temporarily cease work until the materials can be assessed by a qualified archaeologist and an appropriate course of action can be determined in consultation with the State Office of Historic Preservation.	During construction
<b>Cultural Resources</b> Pre-Historic Archeology	Memorandum of Agreement (MOA) will be prepared by Caltrans and FHWA in consultation with the SHPO to mitigate the project impacts to the combined prehistoric/historic archeological site that has been found to be eligible for the NRHP.	During final design and construction
<b>Geology</b> Seismicity	Structure will be designed in accordance with Caltrans Standard Specifications	During final design and construction
<b>Hazardous Materials</b>	<p>Prior to construction a Preliminary Site Investigation (PSI) will be conducted to evaluate the nature and extent of contamination at any of the sites that may be affected by the project. If hazardous waste is present, a detailed site investigation will be conducted to determine the volume and concentration of hazardous material. If hazardous waste is present in the construction zone, a Remedial Actions Options Report will be completed to address the proper handling, cleanup, and disposal of the hazardous material. If hazardous materials contamination is discovered, then Caltrans will ensure that the contamination is remediated to an acceptable level prior to commencing with construction activities in that area.</p> <p>Prior to demolishing or otherwise altering any structures, Caltrans will complete a survey for material containing asbestos and lead based paint. If contamination is discovered, Caltrans will obtain the necessary National Emission Standards for Hazardous Air Pollutants (NESHAP) permits from the air quality management district. The contaminated materials will then be abated to an acceptable level prior to construction.</p> <p>When the traffic stripes containing lead are removed, the grindings will be captured and disposed of at an approved facility.</p> <p>Accidental Spills: Construction specifications will include the following measures to reduce potential impacts associated with accidental spills of pollutants within the project study area:</p> <p>Storage of hazardous materials, chemicals, fuels, and oils (such as pesticides or herbicides) will not be performed within 150 feet of any drainage, wetland, water supply well, spring or other water feature.</p> <p>A spill prevention plan will be implemented for potentially hazardous materials. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching wetland features.</p>	Prior to construction
<b>Water Quality</b> Mercury	<p>Pre-construction sediment samples will be obtained from watercourses impacted by the project and analyzed for mercury to show background concentrations, samples will also be taken at the same locations post-construction. The specific locations to be monitored will be determined in consultation with the Regional Water Board.</p> <p>Best Management Practices (BMPs) will be considered for utilization throughout the life of the project. (e.g use of double row of silt fence).</p>	During final design and construction

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<b>Water Quality</b> Construction	All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The Federal Highway Administration and Caltrans shall ensure contamination of habitat does not occur during such operations.	During final design and construction
<b>Water Quality</b> Permits	All appropriate permits (Section 404, 401, NPDES) will be obtained and complied with to ensure there is no violation. Caltrans Standard Specifications will ensure compliance with water quality rules and regulations.	During final design and construction
<b>Water Quality</b> Erosion	A Storm Water Pollution Prevention Program will be prepared to minimize runoff and impacts to storm water quality during construction.  To minimize any discharge of sediment, earthwork will occur during the dry months. During construction, erosion control measures will be implemented to prevent runoff. Erosion measures may include silt fences and hay bales. If the slopes are exposed over the winter, hydro seeding or straw mulch will be applied to stabilize the slope surfaces and prevent runoff.	During final design and construction
<b>Noise</b>	All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.  As directed by the Caltrans, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.	During construction
<b>Relocations</b>	Relocation assistance payments and counseling would be provided to businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act, as Amended, to ensure adequate relocation. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all relocatees without regard to race, color, religion, age, national origins and disability as specified under Title VI of the Civil Rights Act of 1964.  In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans would provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use. The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program would provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are searching and moving expenses, and possibly reestablishment expenses or a fixed in lieu payment instead of any moving, searching and reestablishment expenses.	Prior to construction
<b>Air Quality</b>	Caltrans Standard Specifications are a required part of all construction contracts. Implementation of measures as specified in Section 7-1.01F, "Air Pollution Control" and Section 10, "Dust Control" of the Caltrans Standard Specifications should effectively reduce and control temporary construction related emission impacts.	During final design and construction

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<b>Traffic</b>	<p>To minimize the impact of construction activities on pedestrians and traffic circulation a Traffic Management Plan (TMP) will be developed during final design. The TMP will include standard methods of construction staging and coordination with local offices would alleviate potential construction impacts to emergency services. To inform the public, local businesses, and other affected parties of construction dates, activities, lane closures, etc. the TMP will include some or all of the following elements:</p> <p style="text-align: center;">Public information campaign</p> <p style="text-align: center;">Project signage to direct pedestrian and vehicular traffic to alternate routes</p> <p style="text-align: center;">Staff attendance at city council meeting or other public meetings to report on the project's progress</p> <p style="text-align: center;">Efforts to maintain access to local businesses, community facilities, and residences with only short-term disruptions</p> <p>In addition to the measures included in the TMP temporary traffic controls, signage, and flagmen shall be employed as necessary and appropriate for the efficient movement of traffic.</p>	During final design and construction
<b>Traffic</b>	If necessary, project construction will be temporarily suspended to accommodate the Davis double century bike race.	Incorporated into TMP during final design.